AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1-60. (canceled)

61. (new) A recombinant polypeptide molecule comprising

(A) a fragment having the amino acid sequence of a part of a native proteolipid protein, which part

(1) begins with an internal amino acid residue that is encoded by the translation initiation site of an internal ribosome entry site (IRES) located within, and in frame with, the coding sequence of the mRNA encoding said native proteolipid protein, said IRES initiation site corresponding to the IRES initiation site in human PLP/DM20 mRNA that encodes Met1 or Met30 of SEQ ID NO:6; and

(2) ends with the C-terminal residue of said native proteolipid protein;

and

(B) a fusion partner having a second amino acid sequence, fused to the fragment (A);

wherein the remainder of the native proteolipid protein amino acid sequence upstream of said Met1-corresponding position is absent from the recombinant polypeptide molecule.

62. (new) The recombinant polypeptide of claim 61, wherein the native proteolipid protein is a mammalian proteolipid protein.

63. (new) The recombinant polypeptide of claim 62, wherein the native proteolipid protein is human PLP/DM20.

64. (new) The recombinant polypeptide of claim 61, wherein the fragment comprises the amino acid sequence of residues 30-72 of SEQ ID NO:6.

65. (new) The recombinant polypeptide of claim 64, wherein the fragment comprises the amino acid sequence SEQ ID NO:6.

66. (new) The recombinant polypeptide of claim 61, wherein the fusion partner comprises any one of a detectable label, a tag, or a targeting moiety.

67. (new) The recombinant polypeptide of claim 61, wherein the fusion partner comprises any one of a naturally fluorescent protein, a peptide, an antigen-targeting antibody chain, or a His-tag.

68. (new) The recombinant polypeptide of claim 61, wherein the fusion partner comprises an antigen-targeting single chain Fv.

69. (new) The recombinant polypeptide of claim 61, wherein said fusion partner comprises yellow or green fluorescent protein (GFP) or a fluorescent homologue thereof.

70. (new) The recombinant polypeptide of claim 69, wherein said fusion partner comprises enhanced green fluorescent protein (EGFP) or enhanced yellow fluorescent protein (EYFP).

71. (new) The recombinant polypeptide of claim 61, wherein the fragment comprises the amino acid sequence of SEQ ID NO:6 or the amino acid sequence of residues 30-72 of SEQ ID NO:6; and the fusion partner comprises any one of a naturally fluorescent protein or a His-tag.

72. (new) The recombinant polypeptide of claim 71, wherein the fragment comprises the amino acid sequence of SEQ ID NO:6.

73. (new) The recombinant polypeptide of claim 61, wherein the native proteolipid protein comprises a wild type amino acid sequence in said part.

74. (new) The recombinant polypeptide of claim 61, wherein the native proteolipid protein comprises a mutant amino acid sequence in said part.

75. (new) The recombinant polypeptide of claim 64, wherein the recombinant polypeptide comprises the His-tagged PIRP-M amino acid sequence of SEQ ID NO:12.

76. (new) The recombinant polypeptide of claim 64, wherein the recombinant polypeptide comprises the amino acid sequence of residues 30-72 of SEQ ID NO:6 fused at its C-terminus to a His-tag.

77. (new) The recombinant polypeptide of claim 61, wherein the recombinant polypeptide comprises a cleavage site between said fragment and the fusion partner.

78. (new) A pharmaceutical composition, comprising:
(a) a pharmaceutically acceptable recombinant polypeptide of claim 61, and
(b) a pharmaceutically acceptable carrier.

79. (new) A method for stimulating oligodendroglial cells or Schwann cells and optionally promoting remyelination, comprising providing to said cells an amount, effective to stimulate oligodendroglial cells or Schwann cells and optionally promote remyelination, of the polypeptide of claim 61.

80. (new) The method of claim 79, wherein the method is carried out *in vivo* in a subject in need of remyelination, said polypeptide is pharmaceutically acceptable, and the method promotes remyelination.

81. (new) The method of Claim 80, wherein said subject is mammalian.

82. (new) The method of claim 80, wherein said polypeptide is located in a pharmaceutically acceptable recombinant cell that is capable of releasing said polypeptide to the environment surrounding the cell.

83. (new) A method for treating a demyelinating or dysmyelinating disease or disorder in a mammalian subject, comprising administering to said subject an effective amount of a pharmaceutically acceptable polypeptide of claim 61, thereby treating said disease or disorder.

84. (new) The method of claim 83, wherein the disease or disorder is multiple sclerosis, closed head trauma associated with Parkinson's-like symptoms, hypoxic ischemia, or spinal cord trauma.

85. (new) The method of claim 83, wherein said polypeptide is located in a pharmaceutically acceptable recombinant cell that is capable of releasing said polypeptide to the environment surrounding the cell.

86. (new) A method for stimulating neural stem cell survival and promoting differentiation or maturation of said cells along the oligodendrocyte pathway, comprising providing to said neural stem cells an effective amount of the polypeptide of claim 61.

87. (new) A method for stimulating proliferation of oligodendrocytes and/or oligodendrocyte precursors, comprising providing to said oligodendrocytes and/or precursors an effective amount of the polypeptide of claim 61.

88. (new) A method of protecting oligodendrocytes from apoptotic death comprising providing to oligodendrocytes an effective amount of the polypeptide of claim 61.

89. (new) A method for treating a disease or disorder in which one or more of oligodendrocytic (a) differentiation, (b) maturation, (c) proliferation, and (d) inhibition of cell death is palliative or curative for said disease or disorder, comprising administering to a subject in need of such treatment an effective amount of a pharmaceutically acceptable polypeptide of claim 61, thereby treating said disease or disorder.

90. (new) The method of claim 89, wherein said polypeptide is located in a pharmaceutically acceptable recombinant cell that is capable of releasing said polypeptide to the environment surrounding the cell.

91. (new) A method for regulating or inhibiting the production or action of PLP/DM20 or of PIRP-M polypeptide under conditions in which said PLP/DM20 or PIRP-M is pathogenically produced in cells or in a subject, comprising providing to the cells or to the subject an effective amount of the polypeptide of claim 64.

92. (new) The method of claim 91, wherein said polypeptide is located in a recombinant cell that is capable of releasing said polypeptide to the environment surrounding the cell.

93. (new) The method of claim 91 wherein the polypeptide or is administered to a subject with oligodendroglioma or a benign glial tumor.

94. (new) The method of claim 93, wherein said polypeptide is located in a pharmaceutically acceptable recombinant cell that is capable of releasing said polypeptide to the environment surrounding the cell.